

ABSTRACT

A cylinder inflow exhaust gas amount calculation system of an internal combustion engine provided with an intake passage, an exhaust passage, an exhaust gas recirculation passage connecting the intake passage and exhaust passage, and an exhaust gas flow rate control valve arranged in the exhaust gas recirculation passage for controlling the flow rate of the exhaust gas flowing in the exhaust gas recirculation passage, and the system calculating an amount of cylinder inflow exhaust gas defined as an amount of exhaust gas flowing into a cylinder, utilizing an amount of passage exhaust gas defined as an amount of exhaust gas passing through the exhaust gas flow rate control valve, wherein an amount of cylinder inflow exhaust gas is calculated considering the dead time corresponding to the time taken until the exhaust gas passing through the exhaust gas flow rate control valve reaches the cylinder and a tracking lag of a change in the amount of cylinder inflow exhaust gas with respect to a change in the amount of passage exhaust gas.